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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,042	07/23/2001	Takumi Okaue	SONYJP 3.0-190	3744
530 7590 04/13/2009 LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090				
EXAMINER				
POPHAM, JEFFREY D				
ART UNIT		PAPER NUMBER		
2437				
MAIL DATE		DELIVERY MODE		
04/13/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/911,042

Applicant(s)

OKAUE, TAKUMI

Examiner

JEFFREY D. POPHAM

Art Unit

2437

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/88)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

Remarks

Claims 1-24 are pending.

Response to Arguments

1. Applicant's arguments filed 12/18/2008 have been fully considered but they are not persuasive.

Applicant argues that neither Ueda nor Kamibayashi disclose "a virtual storage device loaded in a data processing apparatus and operable to execute mutual authentication" or "that mutual authentication is alternatively carried out between a first structure disposed within a data processing apparatus and a virtual storage device loaded in the data processing apparatus instead of being carried out between the data processing apparatus and an external storage device." However, Applicant provides no supporting arguments for such statement or any discussion as to why Applicant believes that neither Ueda or Kamibayashi disclose such features. A discussion follows with respect to what Applicant appears to believe with respect to this amendment, however.

Applicant refers to paragraphs 272, 274, and 296 of the specification as having basis for the amendments. Paragraphs 272 and 296 discuss memory cards that can be used in mutual authentication. However, these paragraphs do not discuss "a virtual storage device" or "a first structure", as claimed. Applicant appears to believe that the "virtual storage device" of the claims must be the "Memory Stick" discussed in paragraph 272, for example. However, the portions cited from the specification refer to a Memory Stick as being an example of a

virtual memory card. If Applicant wishes for the claims to be directed to a Memory Stick or a memory card, then Applicant can amend the claims to refer to a Memory Stick or a memory card as opposed to a "virtual storage device" and "a first structure". Without such amendment, however, the claims are not so limited in scope. A "virtual storage device" is, by its very nature, virtual, and not physical. While Applicant may refer to an example of a virtual memory card as being a Memory Stick, this is not binding on a virtual storage device. A virtual storage device is broader than a virtual memory card, since a memory card is a type of storage device. Briefly looking to the physical domain, a storage device could be a CD, DVD, hard drive, memory card, smart card, EPROM, flash memory, or many other storage devices, only one of which is a memory card. In the virtual domain, one will see that a virtual storage device is a virtual instantiation of, on, or within, any physical storage device. This means that a "virtual storage device" can be the virtual instantiation of a physical storage device (e.g. the virtual representation of a CD, as seen by a computer), a virtual storage entity (such as a partition) of a physical storage device, or, indeed, any piece of data. Therefore, taking virtual storage device in its true definition, one will see that it is quite broad and can cover any data stored on any storage device. Paragraph 96 further shows that a storage device may include "a memory card utilizing a built-in type flash memory or a detachable flash memory, a DVD, or a CD, or a MD (Mini Disc), for example." Therefore, a storage device is defined in the instant application as being much broader than a Memory Stick or memory card.

As is clearly seen in the cited portions of Ueda, there are multiple entities that are loaded and/or disposed in the device, such entities performing mutual authentication. These entities are, for example, the AV decoder card (e.g. numeral 507 in figure 14) and the optical disk drive (e.g. numeral 509 in figure 14). The AV decoder card and the optical disk drive perform mutual authentication for an optical disk that "does not include any structure operable to execute mutual authentication or is not operable to enable such mutual authentication or the memory of the external storage device is devoid of ciphering function", as claimed (see, for example, column 23, line 49 to column 24, line 17). The AV decoder card and optical disk drive clearly read on the virtual storage device loaded in the apparatus and the first structure disposed within the apparatus of the claims, as both are within the apparatus. Furthermore, the 2 entities are operable to execute mutual authentication since they perform mutual authentication with each other. Therefore, Ueda clearly and explicitly discloses "a virtual storage device loaded in a data processing apparatus and operable to execute mutual authentication" and "that mutual authentication is alternatively carried out between a first structure disposed within a data processing apparatus and a virtual storage device loaded in the data processing apparatus instead of being carried out between the data processing apparatus and an external storage device." It is finally noted that both the AV decoder card and optical disk drive may read on either the "virtual storage device" or the "first structure" of the claims, due to the broadness of the claim limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 8, 9, 12-14, 20, 21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (U.S. Patent 6,289,102) in view of Kamibayashi (U.S. Patent 7,065,648).

Regarding Claim 1,

Ueda discloses a data processing apparatus for receiving data from or delivering data to a storage device, the storage device being external to the data processing apparatus and including a memory, the data received from the external storage device being reproduced from the memory of the external storage device and the data delivered to the external storage device being recorded in the memory of the external storage device, the receiving or delivering ordinarily being carried out on condition that mutual authentication between the data processing apparatus and the external storage device is successful, the data processing apparatus comprising:

A virtual storage device loaded in the data processing apparatus and operable to execute mutual authentication (Figures

14-16; Column 23, line 49 to Column 24, line 17; and Column 25, lines 1-16);

A first structure disposed within the data processing apparatus and operable to execute mutual authentication so that when the external storage device does not include any structure operable to execute the mutual authentication or is not operable to enable such mutual authentication or the memory of the external storage device is devoid of ciphering function, the mutual authentication is alternatively carried out between the first structure disposed within the data processing apparatus and the virtual storage device loaded in the data processing apparatus instead of being carried out between the data processing apparatus and the external storage device (Figures 14-16; Column 21, lines 50-60; Column 23, lines 26-61; and Column 37, lines 5-40); and

A second structure operable to receive the data from the external storage device or to deliver the data to the external storage device when the mutual authentication between the first structure and the virtual storage device is successful (Figures 14-16; Column 23, line 49 to Column 24, line 17; and Column 25, lines 1-16);

But does not explicitly disclose performing mutual authentication between the external storage device and the data processing apparatus when the external storage device is operable

to perform mutual authentication (although this is not a claim limitation, it is rejected here for clarity).

Kamibayashi, however, discloses determining if the external storage device is operable to perform mutual authentication with the data processing apparatus or not (Column 5, line 57 to Column 6, line 36; and Column 12, lines 38-39), performing mutual authentication between the external storage device and the data processing apparatus when the external storage device is operable to perform mutual authentication (Column 8, line 22 to Column 9, line 62), and alternatively executing mutual authentication for the external storage device using a structure and/or device other than the external storage device when the external storage device is not operable to perform mutual authentication (Column 12, line 22 to Column 13, line 16). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the recording media of Kamibayashi into the recording and reproducing system of Ueda in order to allow the system to use a plurality of forms of media, including functional media as well as non-functional media, thereby providing protection for content stored on a multitude of functional and non-functional media.

Regarding Claim 8,

Claim 8 is a method claim that is broader than apparatus claim 1 and is rejected for the same reasons.

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Regarding Claim 12,

Claim 12 is a computer readable medium claim that is broader than apparatus claim 1 and is rejected for the same reasons.

Regarding Claim 13,

Claim 13 is an apparatus claim that is broader than apparatus claim 1 and is rejected for the same reasons.

Regarding Claim 20,

Claim 20 is a method claim that is broader than apparatus claim 1 and is rejected for the same reasons.

Regarding Claim 24,

Claim 24 is a computer readable medium claim that is broader than apparatus claim 1 and is rejected for the same reasons.

Regarding Claim 2,

Ueda as modified by Kamibayashi discloses the apparatus of claim 1, in addition, Kamibayashi discloses a structure operable to first execute the mutual authentication with the external storage device by initially checking whether the external storage device includes a structure operable to execute the mutual authentication (Figure 9; Column 5, line 57 to Column 6, line 36; and Column 12, lines 38-39).

Regarding Claim 9,

Claim 9 is a method claim that is broader than apparatus claim 2 and is rejected for the same reasons.

Regarding Claim 14,

Claim 14 is an apparatus claim that is broader than apparatus claim 2 and is rejected for the same reasons.

Regarding Claim 21,

Claim 21 is a method claim that is broader than apparatus claim 2 and is rejected for the same reasons.

3. Claims 3, 5-7, 10, 15, 17-19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda in view of Kamibayashi, further in view of Dondeti (U.S. Patent 6,240,188).

Regarding Claim 3,

Ueda as modified by Kamibayashi discloses the apparatus of claim 1, in addition, Ueda discloses that the first structure and the virtual storage device execute the mutual authentication between the first structure and the virtual storage device by applying a distributed key and another authenticating key previously stored in the virtual storage device (Figures 14-16; Column 23, line 26 to Column 24, line 17; and Column 37, line 5 to Column 38, line 51);

But does not disclose a further key is provided for authenticating distribution of an enabling key block, the further key

having been previously enciphered by the enabling key block, the enabling key block containing enciphering data for enciphering renewal keys which are located on various paths of a hierarchical key tree structure, the hierarchical tree structure having a plurality of keys associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, whereby a given one of the plurality of paths of the key tree structure extends from a specific one of the roots to a particular one of the leaves of the key tree structure, the leaves of the tree structure being respectively associated with a plurality of data processing apparatuses, the enciphering data including upper-rank keys in the tree hierarchy which are enciphered by lower-rank keys.

Dondeti, however, discloses that a further key is provided for authenticating distribution of an enabling key block, the further key having been previously enciphered by the enabling key block, the enabling key block containing enciphering data for enciphering renewal keys which are located on various paths of a hierarchical key tree structure, the hierarchical tree structure having a plurality of keys associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, whereby a given one of the plurality of paths of the key tree structure extends from a specific one of the roots to a particular one of the leaves of the key tree structure, the leaves of the tree structure being respectively

associated with a plurality of data processing apparatuses, the enciphering data including upper-rank keys in the tree hierarchy which are enciphered by lower-rank keys (Column 3, line 48 to Column 4, line 21). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the hierarchical key tree structure of Dondeti into the recording and reproducing system of Ueda as modified by Kamibayashi in order to make the system scalable to allow for the addition and modification of many processing apparatuses.

Regarding Claim 10,

Claim 10 is a method claim that is broader than apparatus claim 3 and is rejected for the same reasons.

Regarding Claim 15,

Claim 15 is an apparatus claim that is broader than apparatus claim 3 and is rejected for the same reasons.

Regarding Claim 22,

Claim 22 is a method claim that is broader than apparatus claim 3 and is rejected for the same reasons.

Regarding Claim 5,

Ueda as modified by Kamibayashi and Dondeti discloses the apparatus of claim 3, in addition, Dondeti discloses means for subjecting the enabling key block distribution authenticating key to a version controlling process by executing a process for renewing

individual versions (Column 1, lines 30-46; and Column 3, line 48 to Column 4, line 21).

Regarding Claim 17,

Claim 17 is an apparatus claim that is broader than apparatus claim 5 and is rejected for the same reasons.

Regarding Claim 6,

Ueda as modified by Kamibayashi does not disclose that a key tree structure is provided comprising a plurality of keys associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, and having a plurality of paths whereby a given one of the paths extends from a specific one of the roots to a particular one of the leaves of the key tree structure, a plurality of data processing apparatuses being respectively associated with the leaves of the tree, and the data processing apparatus further comprises: means for enciphering leaf-keys associated with the leaves using a storage key that is proper to an individual one of the data processing apparatuses and then storing the enciphered leaf-key in a memory means within a corresponding data processing apparatus.

Dondeti, however, discloses that a key tree structure is provided comprising a plurality of keys associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, and having a plurality of paths whereby a given

one of the paths extends from a specific one of the roots to a particular one of the leaves of the key tree structure, a plurality of data processing apparatuses being respectively associated with the leaves of the tree (Column 3, line 48 to Column 4, line 21), and the data processing apparatus further comprises: means for enciphering leaf-keys associated with the leaves using a storage key that is proper to an individual one of the data processing apparatuses and then storing the enciphered leaf-key in a memory means within a corresponding data processing apparatus (Column 3, line 48 to Column 4, line 21). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the hierarchical key tree structure of Dondeti into the recording and reproducing system of Ueda as modified by Kamibayashi in order to make the system scalable to allow for the addition and modification of many processing apparatuses.

Regarding Claim 18,

Claim 18 is an apparatus claim that is broader than apparatus claim 6 and is rejected for the same reasons.

Regarding Claim 7,

Ueda as modified by Kamibayashi does not disclose that a key tree structure is provided comprising a plurality of keys respectively associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, and

having a plurality of paths that extend from the roots to the leaves of the key tree structure, a plurality of data processing apparatuses respectively corresponding to the leaves of the tree and to leaf-keys that further correspond with the leaves; and a device key block is stored in a memory within the processing apparatus, the key block being an assemblage of ciphered keys comprising mutually different individually enciphered node keys of plural steps extending from the leaves of the tree structure up to upper-rank keys of the tree structure.

Dondeti, however, discloses that a key tree structure is provided comprising a plurality of keys respectively associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, and having a plurality of paths that extend from the roots to the leaves of the key tree structure, a plurality of data processing apparatuses respectively corresponding to the leaves of the tree and to leaf-keys that further correspond with the leaves (Column 3, line 48 to Column 4, line 21); and a device key block is stored in a memory within the processing apparatus, the key block being an assemblage of ciphered keys comprising mutually different individually enciphered node keys of plural steps extending from the leaves of the tree structure up to upper-rank keys of the tree structure (Column 3, line 48 to Column 4, line 21). It would have been obvious to one of ordinary skill in

the art at the time of applicant's invention to incorporate the hierarchical key tree structure of Dondeti into the recording and reproducing system of Ueda as modified by Kamibayashi in order to make the system scalable to allow for the addition and modification of many processing apparatuses.

Regarding Claim 19,

Claim 19 is an apparatus claim that is broader than apparatus claim 7 and is rejected for the same reasons.

4. Claims 4, 11, 16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda in view of Kamibayashi and Dondeti, further in view of Harada (U.S. Patent 6,850,914).

Regarding Claim 4,

Ueda as modified by Kamibayashi and Dondeti discloses the apparatus of claim 3, in addition, Dondeti discloses that only a proper data processing apparatus is enabled to decode the enabling key block, whereas an improper apparatus is unable to decode the enabling key block (Column 3, line 48 to Column 4, line 21); but does not disclose the use of licensing to determine which data processing apparatuses are proper and which are not, or revoking improper data processing apparatuses.

Harada, however, discloses the use of licenses to determine which data processing apparatuses are proper and which are not

and revoking an improper data processing apparatus (Column 5, lines 15-67). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the licensing and revocation system of Harada into the recording and reproducing system of Ueda as modified by Kamibayashi and Dondeti in order to provide for dynamic revocation of data processing apparatuses, such that revocation lists can be updated in a timely and efficient manner, thus allowing all proper apparatuses to know which other apparatuses are proper and which are revoked.

Regarding Claim 11,

Claim 11 is a system claim that is broader than apparatus claim 4 and is rejected for the same reasons.

Regarding Claim 16,

Claim 16 is an apparatus claim that is broader than apparatus claim 4 and is rejected for the same reasons.

Regarding Claim 23,

Claim 23 is a system claim that is broader than apparatus claim 4 and is rejected for the same reasons.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY D. POPHAM whose telephone number is (571)272-7215. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571)272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey D Popham
Examiner
Art Unit 2437

/Jeffrey D Popham/
Examiner, Art Unit 2437

/Emmanuel L. Moise/
Supervisory Patent Examiner, Art Unit 2437